Table S1. Statistics for the seasonal variation of the investigated parameters recorded, namely frost resistance as effective percentage of electrolyte leakage (PEL_{eff}), efficiency of PSII (F_v/F_m), performance index (PI_{abs}), photosynthetic rates (A_{max}), maximum carboxylation capacity (V_{cmax}), specific leaf area (SLA), leaf dry matter content (LDMC), stomatal pore area index (SPI), chlorophyll content (Chl) and thickness of the leaf. F statistics and specification of the minimum adequate model for each trait. The significant values of each factor or interaction are coded as '***': $p < 0.001$, '**': $p < 0.005$, '*': $p < 0.01$, 'n.s.': not significant, '-': not included in the minimum adequate model.

	PEL_{eff}	F_v/F_m	PI_{abs}	A_{max}	V_{cmax}	SLA	LDMC	Chl	SPI	Thickness
F statistics	R^2=0.35, $F_{9, 789}$=46.59***	R^2=0.39, $F_{17, 637}$=24.32***	R^2=0.26, $F_{10, 644}$=22.46***	R^2=0.27, $F_{12, 759}$=23.98***	R^2=0.30, $F_{12, 747}$=26.28***	R^2=0.85, $F_{16, 739}$=265.2***	R^2=0.74, $F_{15, 680}$=131.7***	R^2=0.66, $F_{15, 773}$=98.99***	R^2=0.49, $F_{11, 510}$=44.73***	R^2=0.72, $F_{14, 784}$=145.9***
Doy	***	***	***	***	***	***	***	***	*	***
Doy²	***	***	**	n.s.	n.s.	***	***	***	***	***
Species	***	***	***	***	***	***	***	***	***	***
Treatment	***	***	***	***	***	***	***	***	***	***
Doy:Species	***	**	***	***	***	***	***	***	***	***
Doy²:Species	-	***	**	***	***	***	***	***	***	*
Species:Treatment	-	***	-	*	-	***	***	*-**	-	-
Doy:Treatment	-	***	***	-	-	**	-	-	n.s.	n.s.
Doy²:Treatment	-	*	-	-	-	-	-	-	***	*

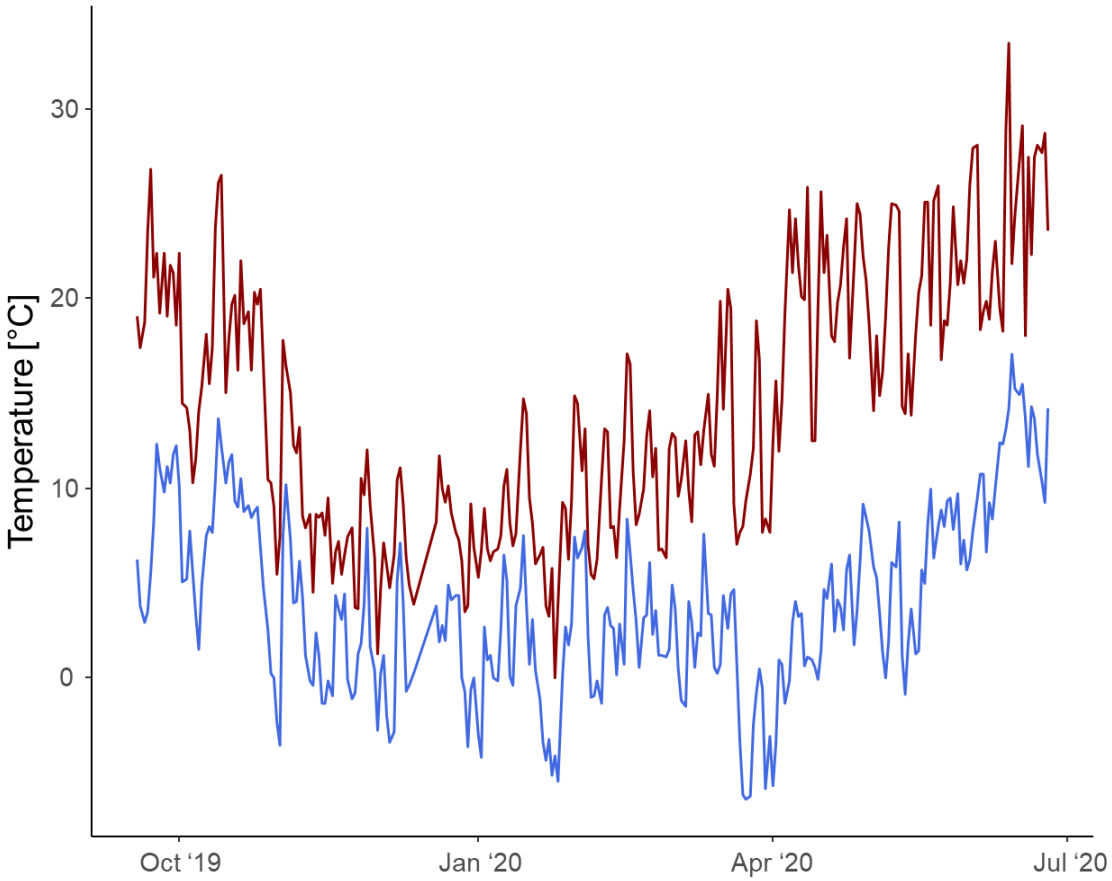

Figure S1. Daily minimum (blue) and maximum (red) temperature at the botanical garden of the Friedrich Schiller University Jena during the measurement period.

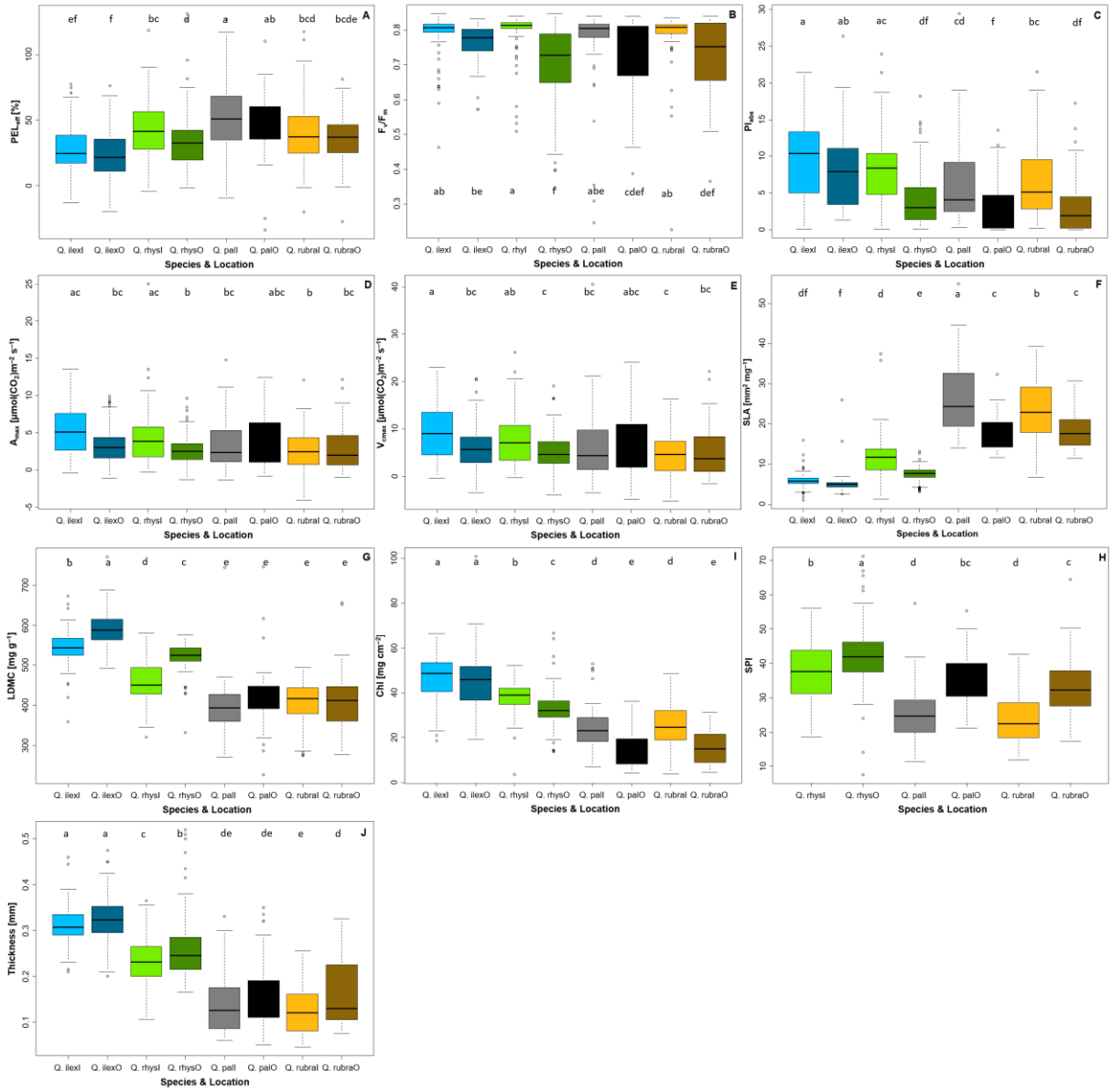

Figure S2. Variation of (A) frost resistance as effective percentage of electrolyte leakage (PEL_{eff}), (B) efficiency of PSII (F_v/F_m), (C) performance index (PI_{abs}), (D) net CO_2 assimilation rate at saturating irradiance and ambient atmospheric CO_2 concentration (A_{max}), (E) maximum carboxylation capacity (V_{cmax}), (F) specific leaf area (SLA), (G) leaf dry matter content (LDMC), (H) chlorophyll content (Chl), (I) stomatal pore area index (SPI) and (J) thickness of the leaf. Letters indicate significant differences between the groups (species and temperature treatment) based on Tukey's HSD at the $p < 0.05$ level. Species are represented by color, the evergreen species *Q. ilex* is displayed in light blue (inside) and dark blue (outside). *Q. rhysophylla* is colored in light green (inside) and dark green (outside). The deciduous species *Q. palustris* is shown in light gray (inside) and dark gray (outside) and *Q. rubra* is displayed in yellow (inside) and brown (outside).

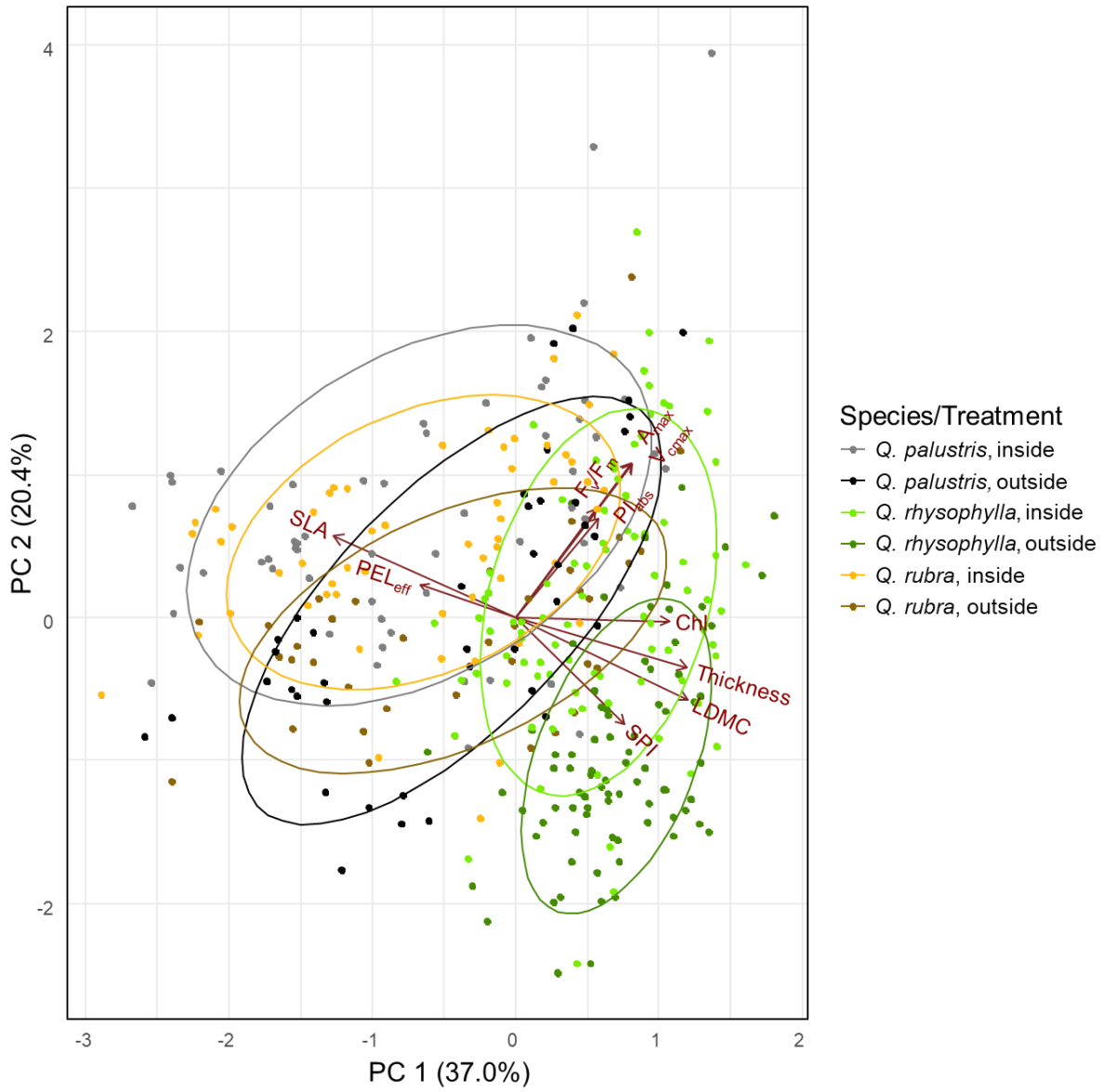

Figure S3. Principal component analysis of all traits selected without the inclusion of the species *Q. ilex*. Colors represent species and the associated treatment. The evergreen species *Q. rhysophylla* was colored in light green (inside) and dark green (outside). The deciduous species *Q. palustris* is shown in light grey (inside) and dark grey (outside) and *Q. rubra* is displayed in yellow (inside) and brown (outside). Given is the frost resistance measured as effective percentage of electrolyte leakage (PEL_{eff}), the net CO_2 assimilation rate at saturating irradiance and ambient atmospheric CO_2 concentration (A_{max}), the maximum carboxylation rate (V_{cmax}), the maximum quantum yield of PSII (F_v/F_m), the absorption based performance index (PI_{abs}), the specific leaf area (SLA), the leaf dry matter content (LDMC), the stomatal pore area index (SPI), the chlorophyll content (Chl) and leaf thickness (Thickness).

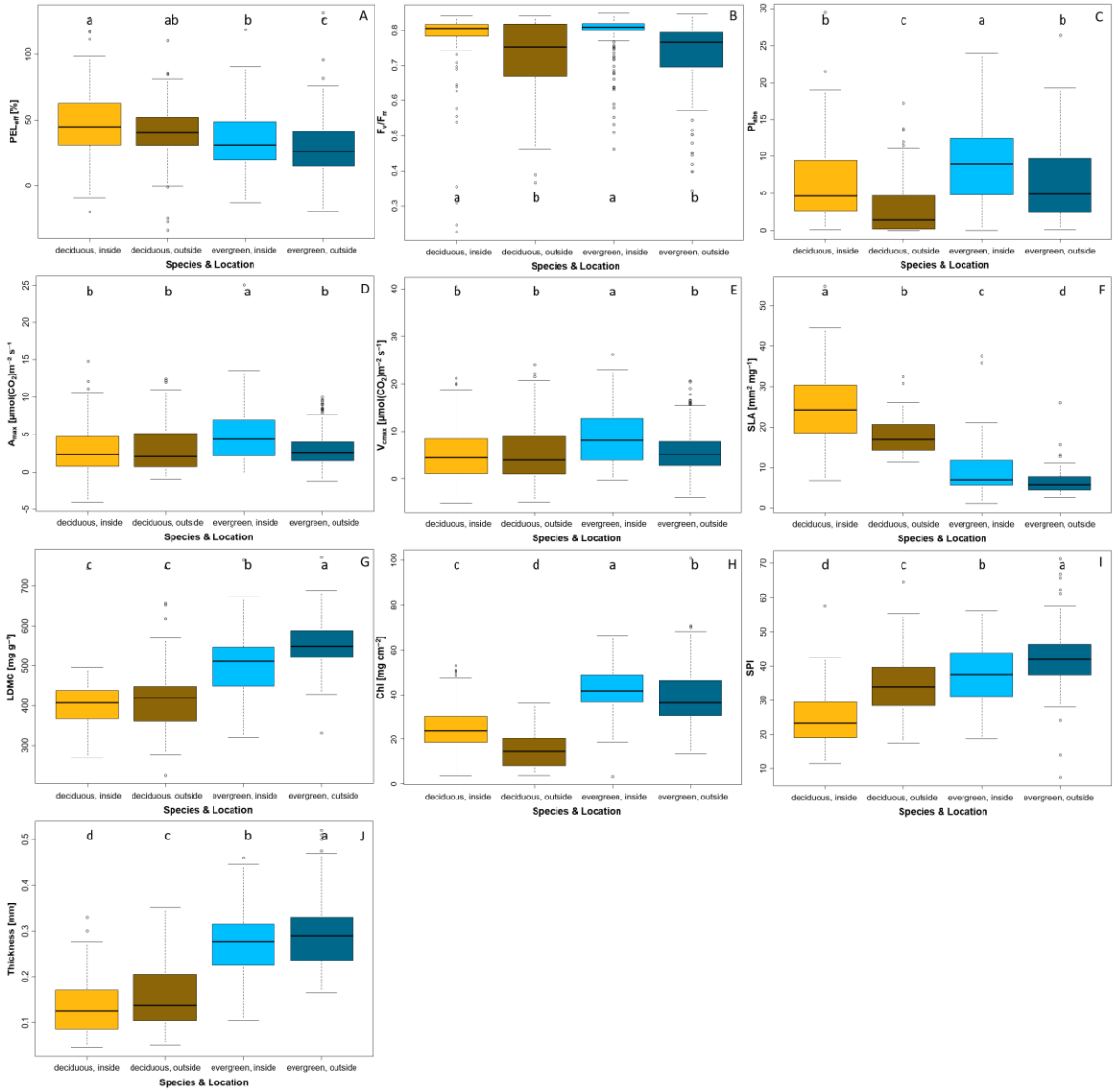

Figure S4. Variation of (A) frost resistance as effective percentage of electrolyte leakage (PEL_{eff}), (B) efficiency of PSII (F_v/F_m), (C) performance index (PI_{abs}), (D) net CO_2 assimilation rate at saturating irradiance and ambient atmospheric CO_2 concentration (A_{max}), (E) maximum carboxylation capacity (V_{cmax}), (F) specific leaf area (SLA), (G) leaf dry matter content (LDMC), (H) chlorophyll content (Chl), (I) stomatal pore area index (SPI) and (J) thickness of the leaf between different lifeforms. Letters indicate significant differences between the groups (lifeform and temperature treatment) based on Tukey's HSD at the $p < 0.05$ level. Lifeforms are represented by color, the deciduous species in yellow (inside) and brown (outside), the evergreen species in light blue (inside) and dark blue (outside). .